

REMARKS

Claims 1-33 and 35-44, as amended, are pending in this application. In this Response, Applicants have amended certain claims. In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

In particular, dependent claims 16-17, and 19 have been amended to satisfy antecedent basis issues. In addition, independent claim 29 has been rewritten to clarify that the hoop-stress layer is wound about the center. Moreover, independent claims 28 and 30 have been rewritten to clarify the material used in the outer cover layer. Finally, claims 33 and 35 have been amended to maintain consistency with independent claim 30, as rewritten.

As no new matter has been added, Applicants respectfully request entry of these amendments at this time.

THE REJECTIONS UNDER 35 U.S.C. § 112

Claims 16-17, 19 and 34 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons provided on page 2 of the Office Action. Claims 16-17 have been amended to depend from claim 2. Likewise, claim 19 has been amended to depend from claim 18. Claim 34 has been canceled in light of the amendments to independent claim 30. Thus, Applicants respectfully submit that the § 112 rejections are overcome and respectfully request reconsideration and withdrawal thereof.

In addition, claim 29 was rejected under § 112, first paragraph, as set forth on page 2 of the Office Action. As briefly discussed above, claim 29 has been rewritten to further clarify that the hoop-stress layer is wound about the center, although the original claim recited a “wound hoop-stress layer” in line 9. In light of this amendment, Applicants respectfully submit that the § 112, first paragraph, rejection has been overcome. As such, Applicants respectfully submit that claim 29 is in condition for allowance.

THE REJECTIONS UNDER 35 U.S.C. §§ 102 & 103

Sano Does Not Render Obvious the Present Invention

Claims 1-6, 8-15, 18-22, and 26-28 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,315,679 to Sano in view of U.S. Patent No. 6,190,268 to Dewanjee for the reasons set forth on page 3 of the Office Action. Sano does not disclose or suggest the present invention, even in combination with Dewanjee, for the reasons that follow.

The objective of Sano is “to provide a thread wound golf ball with excellent rebound characteristics.” Col. 1, lines 50-52. To achieve this objective, Sano teaches a golf ball with a polybutadiene core layer, a thread rubber layer, and at least one thermoplastic cover layer. *See, e.g.*, Col. 2, lines 19-23, Col. 5, lines 55-62, and Col. 6, lines 48-49. In particular, the thermoplastic cover layer is preferably formed from ionomer resin or a mixture thereof. Col. 6, lines 6-10. And, the cover is formed onto the thread wound ball using conventional methods for thermoplastic materials, *i.e.*, compression molding and injection molding. Col. 7, lines 11-21.

Because Sano does not disclose specific teaching regarding a polyurethane outer cover layer, the Examiner relies on Dewanjee in an attempt to fill the gap. Dewanjee, however, is directed to a non-wound golf ball having a core and a polyurethane cover purported to provide overall durability and distance. *See, e.g.*, Col. 5, lines 13-17 and 20-25. While Dewanjee teaches that the golf ball may include a thermoplastic boundary layer between the core and the cover (*see, e.g.*, Col. 13, lines 3-7), the reference is completely silent, however, as to a wound layer incorporated into the golf ball.

As those of ordinary skill in the art are aware, there are vast differences between non-wound golf balls, such as those disclosed in Dewanjee, and wound golf balls, such as those disclosed in Sano. For example, non-wound golf balls are very durable and provide maximum distance. *See, e.g.*, Specification at Page 1, lines 19-22 and Dewanjee at Col. 5, lines 13-17. However, non-wound balls are generally made with rigid materials, which lead to a hard “feel” when struck with a club and a low spin rate. Specification at Page 1, line 33 to Page 2, line 2. In contrast, wound balls are generally softer and provide more spin. Specification at Page 2, lines 3-11. Because of at least these differences, a skilled artisan would lack the motivation to mix and match layer materials in wound golf balls and non-wound golf balls, as suggested by the Examiner, absent the impermissible use of hindsight.

Furthermore, Sano discloses a thermoplastic cover layer, such as ionomer resin, but does not disclose or suggest the use of a thermoset cover layer, as presently recited in independent claim 28. And, while Dewanjee teaches the use of a thermoset polyurethane cover layer, those of ordinary skill in the art are aware that, because of the differences between thermoset and thermoplastic materials, the materials are not interchangeable. For example, a thermoplastic material is likely compression molded or injection molded about an inner ball, whereas thermoset materials may be cast about an inner ball allowing a comparatively thin outer cover layer. Thus, in addition to the lack of motivation to combine the two references due to the obvious differences between wound balls and non-wound balls discussed above, a skilled artisan would also recognize that the substitution of Sano's thermoplastic cover layer with a thermoset cover layer would likely result in a finished golf ball with different play characteristics than set forth in the objectives of Sano. As such, the skilled artisan would have had no motivation to look to Dewanjee in order to fill the gaps of Sano.

Furthermore, even if the combination of Sano and Dewanjee was proper, *arguendo*, the combination of disclosures would not result in the present invention. For example, Dewanjee teaches that wound golf balls require thicker cover layers to account for manufacturing tolerances. See Col. 4, line 65 to Col. 5, line 1. Thus, despite Sano's silence on the thickness of the outer cover layer, one of skill in the art would have reasonably assumed from the Dewanjee disclosure that substituting the solid boundary layer taught therein with the Sano wound layer would have required a cover layer thicker than the highest value in the disclosed range, *i.e.*, 0.05 inches. See Dewanjee at Col. 5, lines 45-47 (teaching a cover thickness range of 0.02 inches to 0.05 inches). In contrast, however, dependent claim 15 and independent claim 30 of the present invention both recite a wound ball with a polyurethane cover layer of less than about 0.05 inches.

For the reasons discussed above, independent claims 1, 28, and 30, and those claims depending therefrom, are not anticipated or rendered obvious by the combination of Sano and Dewanjee. Thus, Applicants respectfully request reconsideration and withdrawal of the §§ 102 and 103 rejections based on the cited references.

Maruko '699 Does Not Disclose or Suggest the Present Invention

Claims 30-32 and 41 were rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,628,699 to Maruko *et*

al. for the reasons stated on page 3 of the Office Action. Furthermore, the Examiner rejected claims 42-44 as obvious over Maruko '699 in view of International Publication No. WO 00/38794.

Maruko '699 is directed to a wound golf ball with a solid center and a multi-layer cover. *See Abstract.* In particular, the multi-layer cover includes an outer cover formed of a first ionomer and an inner cover formed of a second ionomer. *See, e.g.*, Col. 2, lines 29-39. Maruko '699 is completely silent as to a cover layer formed of a thermoset castable reactive liquid material as presently recited. Thus, Applicants respectfully submit that Maruko '699 does not anticipate or render obvious the invention presently recited in claims 30-32 and 41.

With regard to the Examiner's rejections of dependent claims 42-44 based on the combination of Maruko '699 and WO 00/38794, Applicants respectfully submit that these claims are patentable at least by virtue of their dependency from allowable subject matter.

For the reasons set forth above, Applicants respectfully submit that no combination of Maruko '699 and WO 00/38794 disclose or suggest the present invention. Consequently, Applicants respectfully request reconsideration and withdrawal of the rejections based thereon.

Maruko '096 Does Not Anticipate or Render Obvious the Present Invention

Claims 30-34 and 41 were rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,766,096 to Maruko *et al.* for the reasons provided on pages 3-4 of the Office Action. In addition, the Examiner rejected claims 30-41 under § 103(a) as obvious over Maruko '096 in view of U.S. Patent No. 4,123,061 to Dusbiber or U.S. Patent No. 3,989,568 to Issac as discussed on page 4 of the Office Action. Finally, claims 42-44 were rejected as obvious over Maruko '096 in view of International Publication No. WO 00/38794.

Maruko '096 generally discloses a thread-wound golf ball having an inner cover made of a low acid ionomer resin (Col. 2, lines 54-64) and an outer cover made of a thermoplastic resins. See Col. 3, lines 8-15 (teaching that suitable resins for the outer cover include ionomer resins, balata, polyurethane based thermoplastic elastomers, polyester based thermoplastic elastomers, and polyamide based thermoplastic elastomers). Because Maruko '096 does not disclose or even suggest a thermoset castable reactive liquid material for the outer cover, Applicants respectfully request that the §§ 102 and 103 rejections based on the reference be reconsidered and withdrawn.

In addition, despite the explanations in Dusbiber and Isaac relating to the specific “ingredients” of a polyurethane composition, as explained above, those of ordinary skill in the art would not view thermoplastic and thermoset materials as interchangeable. As such, the skilled artisan would have had no motivation to look to Dusbiber and Isaac, assuming the references included teachings of thermoset castable reactive liquid materials, in order to fill the gaps of Maruko ‘096 without the present invention to use as a template to pick and choose.

Furthermore, Dusbiber does not provide instruction for a thermoset castable reactive liquid material, as presently recited in independent claim 30. For example, Dusbiber discusses an equivalent weight ratio of 1:1 for curing agent to prepolymer. *See* Col. 3, lines 29-30. As known to those of ordinary skill in the art, thermoplastic polyurethane compositions generally include linear polymers and are typically formed curing the prepolymer with a diol or secondary diamine with 1:1 stoichiometry in the absence of moisture. Thermoset castable reactive liquid materials, on the other hand, are cross-linked polymers and are typically produced from the reaction of a diisocyanate and a polyol cured with a primary diamine or polyfunctional glycol with a prepolymer to curative ratio less than about 1. Moreover, neither Dusbiber nor Isaac disclose or even suggest a wound ball with a polyurethane cover. Thus, a skilled artisan would not have been motivated to combine the references.

Finally, with regard to the Examiner’s rejections of dependent claims 42-44 based on the combination of Maruko ‘096 and WO 00/38794, Applicants respectfully submit that these claims are patentable at least by virtue of their dependency from allowable subject matter.

For at least the reasons discussed above, Applicants respectfully submit that no combination of Maruko ‘096, Dusbiber, Isaac, or WO 00/38794 anticipate or render obvious the present invention.

Wu Does Not Disclose or Suggest the Present Invention

Claims 1-28 and 30-44 were rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,486,261 to Wu *et al.* for the reasons provided on pages 4-5 of the Office Action.

Applicants respectfully submit that Wu is not prior art to the present invention as defined under 35 U.S.C. § 102(e). In particular, the subject matter of the present application was conceived of prior to the November 27, 2000 filing date of the Wu reference. Under 37 C.F.R. §

1.131, an affidavit or declaration of prior invention is effective to overcome a rejection under § 102(a) and (e) when “the showing of facts shall be such . . . as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of an application.” 37 C.F.R. § 1.131(b). Applicants respectfully submit that the present invention was conceived of prior to the effective filing date of the Wu reference and reduced to practice shortly thereafter with reasonable diligence and with continuing refinements occurring up to the filing date of the instant application.

In support of this position and in response to the remarks in the Office Action, Applicants submit herewith a Declaration of Herbert C. BOEHM under 37 CFR § 1.131, as well as supporting documentation. The Boehm Declaration demonstrates conception of the invention, as presently claimed, before November 27, 2000. For example, Exhibit A includes an invention record, written prior to November 27, 2000, that demonstrates conception of a large solid center wound core with a veneer cover. In particular, Exhibit A details a golf ball having a low compression polybutadiene core formed from CB23, a wound layer, a multilayer cover with an outer cover layer formed of cast thermoset urethane, e.g., RC11b and having a thickness in the range of 0.02 inches to 0.04 inches. As addressed in the Boehm Declaration, the instant application provides that CB23 is a commercially available rubber material having a resilience of 55 at 100°C. *See Page 18, lines 13-22.* In addition, the instant application provides that RC11b urethane is a thermoset polyurethane (prepolymer to curative ratio of less than 1) having an NCO content of 6 percent. *See Page 57, Example 5.*

In addition, Exhibit B demonstrates conception of a large center wound ball that incorporates the veneer technology of the grandparent application filed May 27, 1997, now U.S. Patent No. 5,885,172 (Exhibit C) and further builds upon the disclosure in parent patent no. 6,132,324 (Exhibit D). In particular, the invention record details a wound golf ball having an ionomer resin inner cover and a cast urethane outer cover.

Moreover, the Boehm Declaration provides that the inventors and patent counsel worked with reasonable diligence to prepare and file an application shortly after conception. This work included providing further working examples of the present invention.

Therefore, in light of the Boehm Declaration, Applicants respectfully submit that, since Wu is not prior art under 35 U.S.C. § 102(e), the rejections under 35 U.S.C. §§ 102(e) and 103(a)

based thereon have been overcome. As such, Applicants respectfully request reconsideration and withdrawal thereof as to all pending claims.

THE DOUBLE PATENTING REJECTION

The Examiner rejected claims 1-28 and 30-44 under the judicially created doctrine of obviousness-type double patenting as obvious over claims 1-50 of the Wu '261 patent for the reasons provided on page 5 of the Office Action. Applicants submit herewith a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) in order to overcome the double patenting rejections based on the Wu '261 patent. As such, Applicants respectfully request that the double patenting rejection be withdrawn.

CONCLUSION

All claims are believed to be in condition for allowance. If the Examiner believes that the present amendments still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorneys to discuss any remaining issues.

A Fee Sheet Transmittal is submitted to pay for the Terminal Disclaimer. No other fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Swidler Berlin Shereff Friedman, LLP Deposit Account No. 195127, Order No. 20002.0010.

Respectfully submitted,
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